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December 23, 1998

EX PARTE

Magalie Roman Salas, Secretary
Federal Communications Commission
Washington, D.C. 20554

Re: ET Docket No. 98-42
RF Lighting Devices

Dear Ms. Salas:

On December 22, 1998, Dr. Michael W. Ritter, Senior Director of Systems Engineering for Metricom, Inc., and Henry Rivera and I from this office, met with Ari Fitzgerald, Legal Advisor to Chairman Kennard, Karen Gulick, Legal Advisor to Commissioner Tristani, and Paul Misener, Legal Advisor to Commissioner Furchtgott-Roth, to discuss Metricom's position in this proceeding.

The discussions closely followed Metricom's Comments and Reply Comments filed in the proceeding. In addition, the December 15, 1998 *ex parte* filing of Fusion Lighting was discussed, and copies of the attached presentation were used during the discussions.

In accordance with Section 1.1206 of the Commission's rules, two copies of this letter and associated attachments are being submitted.

Please contact the undersigned if there are any questions in connection with this matter.

Sincerely yours,

Larry S. Solomon

Attachments

No. of Copies rec'd 0+1
List ABCDE

0014658.01

Metricom, Inc.

RF Lighting Devices
ET Docket No. 98-42

Dr. Michael W. Ritter
Sr. Director of Systems Engineering

22 December 1998

Metricom Overview

- Public company (MCOM), founded in 1985
- 300 employees and consultants
  - Headquartered in Silicon Valley
  - Networks in SF Bay Area, Seattle, Washington DC, parts of LA, numerous airports, campuses, and small towns
- Tens of thousands of radios operating across the US
- Over 27,000 customers
- Uses unlicensed, shared spectrum
- Part 15 Coalition member

Typical Customers

- Education, K-12 and Universities
  - Stanford, Berkeley, George Washington, etc.
- Corporations
  - HP, Sun, IBM, Cisco, etc.
- Industrial
  - Southern California Edison, etc.
- Franchisees and Partners
  - K & N Energy and PEPCO
- Governments
  - LAPD trial with IBM, other police departments
  - numerous city governments

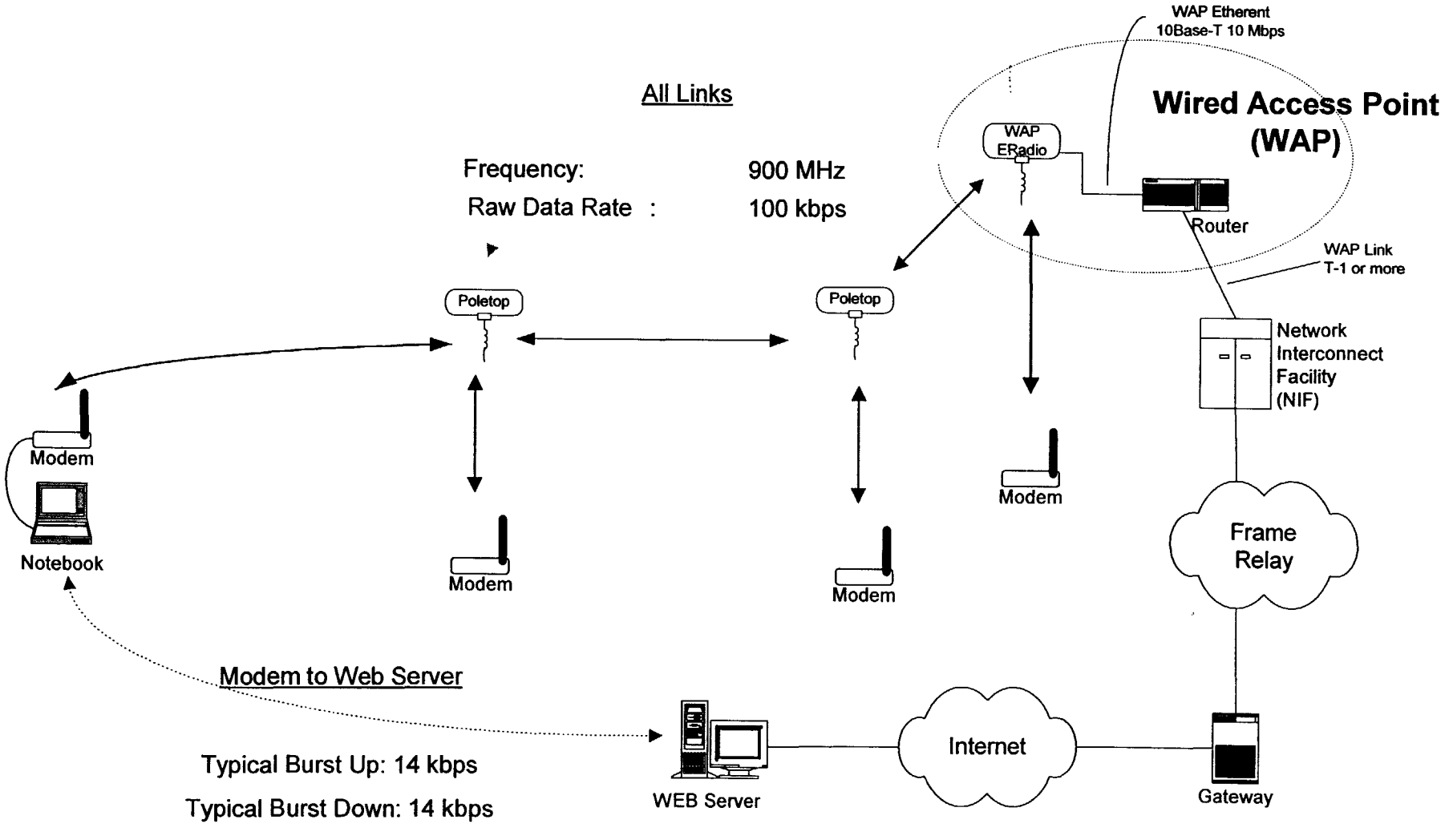
What Metricom's Customers Expect

- Affordable cost
- High speed
- Broad coverage
- Long-term availability

Metricom's Current Network

- 100% digital packet-switched network
- Intelligent Microcells on streetlights and buildings
- Frequency hopping, spread spectrum
- Proprietary architecture
- 20 patents
- Uses 902-928 MHz band

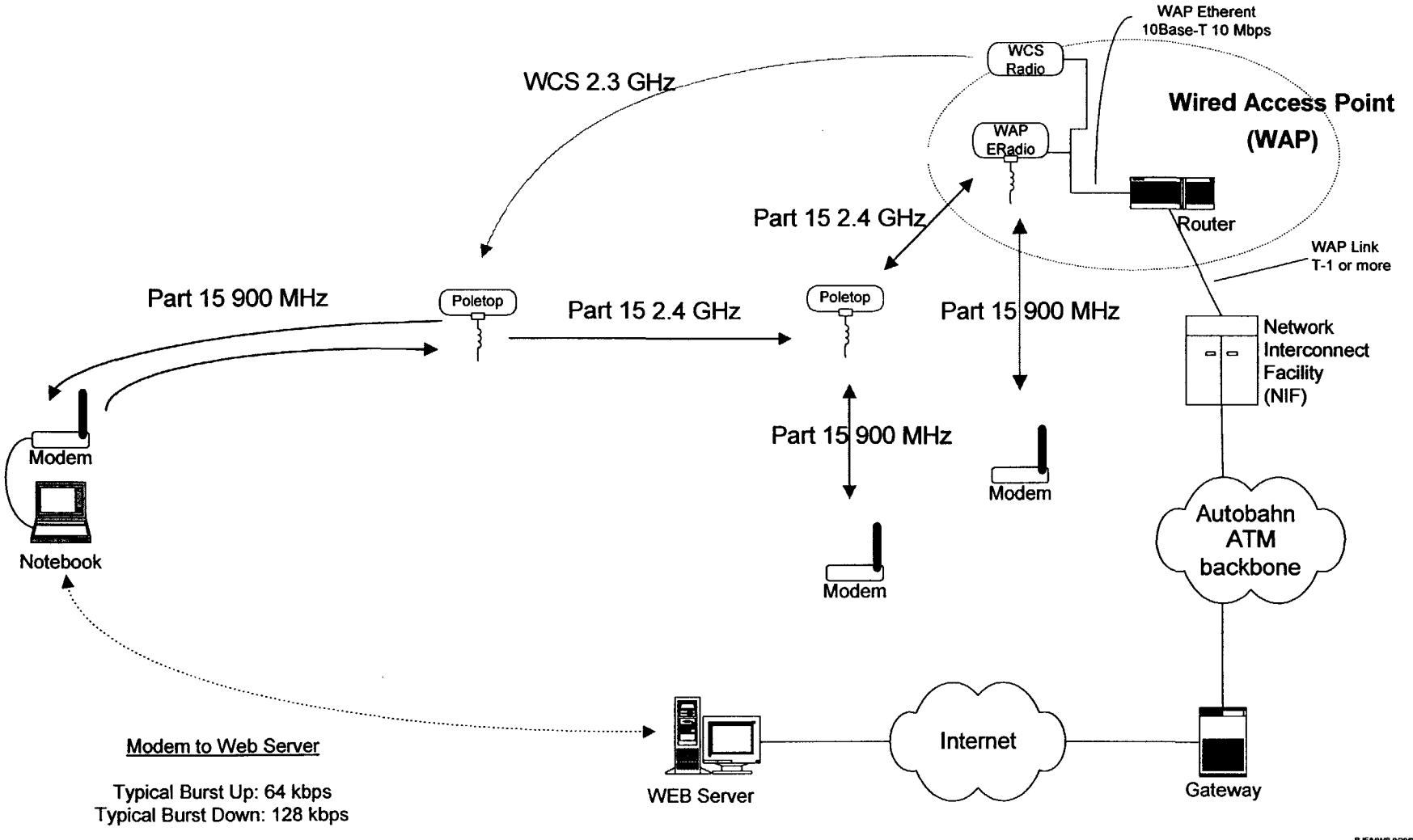
Ricochet Network Overview



To Be Deployed Next Year

- Autobahn Network
- Productive use of multiple frequency bands
- ISDN (128 kbps) throughput rate
  - Advanced modulation schemes
  - More efficient use of spectrum
- More sophisticated protocols
- "Soft" radios

Autobahn Network Overview



The Problem

- With no in-band limits, RF lighting can make the 2.4 GHz band unusable for Metricom and other Part 15 providers
  - wherever they are we can't be
- Metricom's comments demonstrate Fusion's RF lighting generates significant band pollution
  - not their desired product (which is light, not RF)
- Preliminary Metricom lab tests illustrate this problem

Fusion Lighting Ex Parte

- Fusion presented on 10 December 1998
- Fusion claims current devices operate at:
  - 20 dB below IEC/CISPR Publication 15 limits (10 mV/m @ 3m)
- Data shows a 10 MHz bandwidth signal
- If Fusion's claims are accurate, Metricom's part 15 devices can coexist.

Proposed Limitations

- Metricom is concerned that other devices will not share as well as Fusion Lighting
- We would like to see Fusion's claimed in-band emissions formalized into a rule
- We are working with other Part 15 manufacturer's to propose a standard

Conclusion

- We all agree that the FCC-encouraged Part 15 is a great idea
  - significant innovation has occurred
  - a new industry has come into being
  - unlimited entrepreneurial opportunities
- The Commission must require in-band limits for 2.4 GHz RF lighting
  - Failure to do so will lead to the demise of Part 15 operations in the band
- We want to share the band with all users
  - Simple rules would make this possible